UNITED STATES PATENT AND TRADEMARK OFFICE

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10/787,201	02/27/2004	Craig Allan Dunk	P1646US00	4692

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on October 6, 2008 has been entered.

Response to Arguments

2.   Applicant's arguments filed October 6, 2008 have been fully considered but they are not

persuasive because the previously provided references perfectly disclose the claimed limitations.

        The arguments on page 11-13 of the Remarks/Arguments are not persuasive, and thus the

claims are not patentable in view of the following disclosure.

        Regarding the 35 U.S.C. 112, the Examiner disagrees with the Applicant's argument that

"A computer-readable storage medium containing a set of instructions executable by a

processor". The Examiner carefully read the cited paragraph [0015]. However, the manager 70

determines the quality of the link or strength of the signal level. It doesn't say a computer-

readable storage medium stores instructions to be executed by a processor to control the

electronic device as claimed. The Applicant argues that it is well known and necessarily involves

a computer-readable storage medium when executing software objects. With all due respect, it

doesn't matter whether it is well known or not, it must be clearly described in the specification.

        Regarding claims 1, 10 and 16, the Applicant argues Stephens doesn't disclose,

"repeating said transmitting step unitl said transmitting step fails" and is not combinable with

Kitchin. With all due respect, the Examiner provides Kitchin not Stephens for the limitation that

the Applicant argues. The Examiner didn't say that Stephens continue transmitting the packets

unitl the transmitting step fails or unitl a NACK received or ACK is not received. Stephone

clearly discloses transmitting packets, and retry the transmission when the packets are not

successfully received and/or transmitted. However, Stephone doesn't explicitly address repeating

the transmission unitl the transmission fails or not acknowledged. Kitchin cures the shortcoming

of Stephens. As cited and explained in the previous Office Action, Kitchin teaches transmitting

individual packets and waits for an acknowledgement. As long as it receives the

acknowledgements the transmitting device continuously sends the packets. If a packet fails or not

acknowledged, the transmitting device retransmits the packet and wait for acknowledgement

(pease, see col. 2, line 53-col. 3, line 9). And that is exactly what has been claimed and/or

disclosed in the Applicant's specification (paragraph [0020]).

    With all due respect, the Applicant's argument that Stephens doesn't mention waiting for

acknowledgement and uses two transmit modes are not relevant because the Examiner doesn't

rely on Sptephens for repeating transmission unitl the packets are not acknowledged or the

transmission is failed. However, as explained above, Stephens discloses determining the quality

or the condition of the link 134 (or channels within the link), developing retry strategy based on

the quality (parageph [0047]), retransmitting accoring the retry strategy (paragraph [0060]-

[0061]). Now, does it matter what technique the transmitter uses or how the function is done

inside the transmitter? No. The question is does the transmission repeats transmitting unitl failed

or not acknowledged? As explained above, Kitchin clearly teaches the argued limitaiton. The

two references are perfectly combinable because first they are on the same endeavor. Second, the

sep of repeating or continuously transmitting unitl the transmission fails or the delivery of a

packet is not successful (not acknowledged) of Kitchin is used into the teachings of Stephens in

order to have reliable service that would guarantee the reception of packets. The problem with

this kind (continue transmission of packets unit failing) of delivery of packets is that the source

has to wait for sometime until it receives acknowledgement. However, it guarantees reception of

the transmitted packets because the source doesn't send the next packet unless it knows the

previously transmitted packet is received by the receiver. It knows that the packet is received by

the receiver because it recieves acknowledgement response. Therefore, the cited refereces are

perfectly combinable.

The Examiner submits the claims are not patentable in view of the provided references,

and the arguments are not persuasive.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

4.   Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the

written description requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to reasonably convey to one skilled in the relevant art that

the inventor(s), at the time the application was filed, had possession of the claimed invention.

The recited, "a computer-readable storage medium containing a set of instructions

executable by a processor to control electronic device" is not disclosed in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

   1.   Determining the scope and contents of the prior art.
   2.   Ascertaining the differences between the prior art and the claims at issue.
   3.   Resolving the level of ordinary skill in the pertinent art.
   4.   Considering objective evidence present in the application indicating obviousness
            or nonobviousness.

6.   Claims 1, 3, 10, 12, 16-22 and 28-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Stephens (US 2004/0258039 A1) in view of Kitchin (US 7,260,392 B2) and

further in view of Riedel et al. (US 7,289,453 B2).

Regarding claims 1, 3 and 17-22, Stephens discloses a method of delivering packets

over a link (Fig. 1; paragraphs [0025] and [0022]) comprising the step of: transmitting at least

one packet over said link via a first layer of a protocol stack employed by said link (Fig. 1;

paragraphs [0022]; [0029], packets are transmitted over the link. Note that it is inherent to

transmit the packets over the transport layer of the OSI or seven layers, thus the name transport

layer); determining a quality of said link at an electronic device by examining quality-of-service

(QoS) information (paragraphs [0047], lines 1-9; [0049], the condition of the link 134 or the

channels of the link is/are measured at the transmitting station); developing a retry strategy for

said transmitting step based on said determined quality, and retransmitting said at least one

packet according to said retry strategy (paragraphs [0047], lines 9-13; [0056]; [0060]-[0061];

[0055]-[0056], require retrying based on the quality or condition of the link. For example during

the first portion transmitting an initial burst of packets; and if packet(s) fail(s), retrying during

the second portion) wherein the transmitting station identifies a packet failure when it fails to

receive of an expected response such as not acknowledged signal (paragraph [0049]); said

packets are TCP (paragraph [0026], note that TCP is part of the Internet protocol); and said link

is radio service (GPRS) wireless link (see Fig. 1, "link 134" or paragraph [0021]).

Stephens doesn't explicitly disclose repeating said transmitting step until said

transmitting step fails; examining the QoS information inherently available within a-second layer

of said protocol stack; said second layer being a different layer in said protocol stack than said

first layer.

Kitchin teaches repeating said transmitting step until said transmitting step fails (col. 2,

line 53-col. 3, line 9, illustrates the transmitter continuously transmits packets as long as ACK is

received. That is, until delivery or transmission of packet is failed. The delivery fails when

NACK is received or ACK is not received for certain time. Then the transmitter retransmits the

packet. If the retransmission is successful, the transmitter precedes with the next packet in the

sequence. Note that repeating or continuing transmitting packets until failure or until receiving

NACK or not receiving a ACK for a predetermined time is a well known concept. It is not

something that is novel. In fact, this process is called stop and wait process. Meaning the

transmitter transmits packet(s) and wait for ACK. If received proceeds to the next packet(s) and

so on until failure or NACK. And that is what the specification discloses, see paragraph [0020]).

Kitchin doesn't teach examining the QoS information inherently available within a-second layer of said protocol stack, said second layer being a different layer in said protocol stack than said first layer.

Riedel teaches examining the QoS information inherently available within a-second layer of said protocol stack, said second layer being a different layer in said protocol stack than said first layer (col. 6, lines 36-60; col. 7, lines 7-22, explain monitoring QoS of the link at data link layer or layer 2, which is different from the transport layer or layer 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the technique of continuously transmitting packets until transmission fails and monitoring QoS at data link layer (which is different from the transport layer) as taught by Kitchin and Riedel, respectively in to the wireless communication of Stephens in order to have a reliable packet delivery service that guarantees delivery of packets sent from the transmitter and receiver without packet loss, to reduce cost and complexity of packet delivery, to be able to manage and support adaptive real-time applications to dynamically adapt a time-varying device connectivity and different link characteristics, and to keep an optimal wireless connection and inform the upper layers by the trigger event to initialize handover.

Regarding claims 10, 12, 16 and 28-32, the claims include the features corresponding to the subject matter mentioned above to the rejected claims 1, 3 and 17-22, and the same rejection is applied hereto.

7.   Claims 2, 11, 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephens in view of Kitchin and Riedel, and further in view of Haas et al. (US 6,912,387 B2).

As applied above, the modified network communication of Stephens discloses transmitting packets until failure, retransmit the packet when failed according to the retry strategy, and continue transmitting if the retransmission acknowledged. However, the modified communication of Stephens doesn't disclose terminating said method if said re-transmitting step fails; the service used for delivery of said packets comprises a traditional PSTN type of telephone call, through the uses of appropriate PSTN gateways.

Haas teaches terminating said method if said re-transmitting step fails (Figs. 2 and 3; col. 4, line 50-col. 5, line 8; col. 6, lines 2-13) and the service used for delivery of said packets comprises a traditional PSTN type of telephone call, through the uses of appropriate PSTN gateways (see Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the technique of Haas, which teaches ending the transmission when the retransmitted packet determined failure based on the retrying and PSTN though the use of PSTN gateways into the modified communication of Stephens in order to avoid latency, and thus ensure reliability and throughput.

8.   Claims 4-9, 13-15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephens in view of Kitchin and Riedel, and further in view of Gage (US 2004/0151136 A1).

Regarding claims 4-5, 7-9, 13-15 and 27, the modified communication of Stephens discloses determining quality of a link at data link layer (layer 2) and transmitting the packets via transport layer (layer 4) of a protocol stack to deliver packets.

The modified communication doesn't explicitly disclose determining second quality of a second link; the qualities of the links is based on at least one of the measurements of reachability

and availability of a given service used for delivery of said packets; determination of which link has a more desirable quality, the least financial cost, and transparent to performance of given service being used for carrying said packets.

Gage teaches determining second quality of a second link (paragraph [0029]; [0039]; [0042], etc, illustrates determining or measuring a quality of another link than the first one); the qualities of the links is based on at least one of the measurements of reachability and availability of a given service used for delivery of said packets (paragraph [0058]; claims 19 and 27); determination of which link has a more desirable quality, the least financial cost, and transparent to performance of given service being used for carrying said packets (paragraph [0029]; [0032]; [0038]) and select one of the links based on quality (paragraph [0010]; [0045], illustrates selecting a link with based on the predetermined quality value or criteria. Note also that since the modified communication of Stephens retry strategy based on the quality, it is obvious for a skilled person in the art to realize selecting the link according retry strategies that are based on the qualities on the links).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and determine the qualities of plurality of links based on reachability and/or availability, desirability or preference, financial cost, transparent to performance as taught by Gage into the modified communication of Stephens in order to allow the wireless device to more efficiently roam between various communication links without repeated terminations and re-establishments of the network connection.

Regarding claim 6, Stephens discloses the service includes VOIP (paragraph [0036])

9.   Claims 24-26 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Stephens in view of Kitchin and Riedel, and further in view of Hyziak et al. (US 5,682,460).

As applied above, the modified communication of Stephens discloses retry strategy based

on the determined quality of the link. However, the modified communication of Stephens doesn't

explicitly disclose determined quality is a transmission profile, said transmission profile is a

record of successful transmissions from said device or of signal strengths for a previous time

period, said previous time period is 10 seconds.

Hyziak teaches determined quality is a transmission profile, said transmission profile is a

record of successful transmissions from said device or of signal strengths for a previous time

period, said previous time period is 10 seconds (col. 4, line 62-col. 5, line 24, explains recording

and reporting the status information such as successful delivery, failure, time of transmission or

time stamp, elapsed time of transmission, quality of service, cost, acknowledgement and so on.

Note also since Hyziak records the time of transmission (time stamp) and elapsed time of

transmission, it is obvious for a person having skill in the art to realizing setting the previous

transmission time to 10 seconds).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to develop a transmission profile by recording the transmission or

information status in the previous time period or an elapsed time period as taught by Hyziak and

incorporate it into the modified communication of Stephens in order to permit a communication

system subscriber to select a set of preferences and associated constraints to be used during the

transmission of information within said communication system for reasons such as, but not

limited to: cost, security, urgency, reporting options, disposition requests, and/or spectral

efficiency, thus the subscriber or the sender may desire to route information over the network

exhibiting the highest throughput.

10.   Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Stephens in view of Kitchin, Riedel and Hyziak, and further in view of Upadrasta (US 6,771,594

B1).

        Regarding claim 37, as applied above, the modified packet communication of Stephens

discloses develop retry strategy and recording or profiling the transmission or information status.

However, the modified communication of Stephens doesn't explicitly disclose computer

processor configuring to develop said retry strategy as a mirror of said transmission profile.

        Upadrasta teaches configuring to develop said retry strategy as a mirror of said

transmission profile (col. 7, lines 48-50, illustrates the profile indicates number of retries and

acknowledgements. In other words, retrying the TCP packets is according or mirror of the

profile).

        Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use retrying according to the user transmission profile as taught by

Upadrasta into the modified packet communication of Stephens so that network conditions will

be deemed to have improved and either reliable and/or non-reliable mode would be used or

entered.

        Regarding claim 38, which inherits claim 37, includes the features corresponding to the

subject matter mentioned above to the rejected claim 27, and the same rejection is applied hereto.

Conclusion

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIBROM T. HAILU whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kibrom T Hailu/

Examiner, Art Unit 2416

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit 2416